Open Workshops

Innovating through a Problem-Solving Approach

Nebraska Environmental Partnerships

Nebraska Department of Environmental Quality

PROBLEM:

There are 532 incorporated municipalities in the State of Nebraska. Of those, 500 have populations of less than 1000. Many of these small communities are faced with a myriad of environmental challenges and have limited available resources. While fiscal resources are often the primary impediment to addressing problems, lack of expertise in understanding and addressing complex environmental regulations is also prevalent. Additionally, much of the communities environmental infrastructure is aging and in need of attention, if not replacement.

INNOVATIVE SOLUTION:

The Nebraska Environmental Partnership (NEP) was formed to assist small communities adequately address the environmental issues. The program assists small communities through a team process that helps prioritize their environmental challenges. Composition of the team varies depending on the issues. Those who may be team members include: Community officials; utility representatives and consulting engineers from the local community; representatives from the State Department of Environmental Quality, Health and Human Services, or Economic Development; and possibly regional representatives from the Natural Resources Districts; Midwest Assistance Program; Nebraska Rural Water Association; and, the University of Nebraska Community and Regional Planning.

In addition NEP has also concentrated efforts at the identification and use of alternate technologies that will allow communities to comply with environmental regulations in the most economic manner possible. To date, examination of alternate technologies has concentrated on the use of constructed wetlands, enhanced design of septic systems, and improved operations of complete retention lagoons.

RESULTS

Over the last two years most of the NEP efforts have been devoted to developing prioritized lists of environmental issues facing communities. Currently there are 100 of these community assessments either in progress or completed. The results of the assessments have ranged from requiring little, if any action being taken, to the initiation of total water and wastewater system upgrades or replacements.

Results from the alternate technologies efforts are ongoing.

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Environmental Problem Solving
Florida Dept. of Environmental Protection

PROBLEM:

At the Florida Department of Environmental Protection (DEP), we solve problems all the time. It's our job. But some problems defy our conventional efforts. Problems like:

- 238 failures to check drinking water for bacteria in a year in two of DEP's districts.
- 94 illegally stripped shorelines on two Outstanding Florida Waters.
- 657,000 gallons of raw sewage that overflowed to Orange County surface waters in a year.
- Erosion problems—almost weekly during one stretch—during construction of the Central Florida Beltway.

These were recurring environmental problems. They were our responsibility and they were not getting solved with conventional efforts. These problems, and problems like them, demand unconventional alternatives -- tailored solutions. In the past four years, DEP has learned to tailor solutions to problems like these with a method called Environmental Problem Solving (EPS).

INNOVATION:

At the direction of former Secretary Virginia Wetherell, Dr. Malcolm Sparrow introduced EPS to the DEP in 1996. Since 1998, use of EPS has expanded under Secretary David Struhs.

EPS is a straightforward, data-driven process. Taken step-by-step, EPS is used to identify the problem, analyze the problem, measure the problem, and then tailor a solution. When the solution is implemented, its effectiveness is measured. Then, the solution is adjusted for effectiveness. When success is achieved, the project is closed. Long-term monitoring usually follows to ensure that the problem does not arise again.

The infrastructure that supports EPS is as important as the process itself. That infrastructure is set up so staff can identify problems, managers can choose and review projects, coordinators can support problem solvers and people can learn from the efforts. The process and the infrastructure have the potential to yield measurable differences vs. seemingly intractable problems.

RESULTS:

The solutions tried with EPS are often unconventional and innovative. Some solutions have been so successful and efficient that they became standard operating procedure after the project was closed. When successful, the results of Environmental Problem Solving are measurable. That's been true of a dozen of EPS projects. For instance, with problem solving, DEP has:

- Cut failures to check drinking water for bacteria in two districts from 238 a year to 78. This bettered by far the team's goal to cut the failures in half.
- Initiated restoration of 90 of 94 illegally stripped shorelines on two Outstanding Florida Waters (OFW's) without enforcement. Just as important, there has been just one new violation on the OFW's in the last year.
- Reduced gallons of raw sewage that overflowed to Orange County surface waters from 657,000 gallons in a year to 123,000 gallons. That's an 80% reduction.
- Cut erosion problems that plagued construction of the Central Florida Beltway during 1992 to 1998. During one stretch, reports of problems came in almost weekly. In the last two years, there have been zero violations

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